CLAIMS

What is claimed is:

1. A modular infrastructure services device comprising:

a pallet having at least one mounting structure for at least one infrastructure module;

a power bus having at least one modular power coupling for electrically connecting at least one infrastructure module thereto; and,

a control bus having at least one modular control coupling for communicatively coupling at least one infrastructure module thereto.

2. The modular infrastructure services device of claim 1 further comprising a plurality of infrastructure modules mounted to the pallet and coupled to the power and control buses, the plurality of infrastructure modules being chosen from a group consisting of a control module, a communications module, a power module, a water filtration module, an air module, a battery module, an auxiliary power module, a security module, an hydraulic power module, a pneumatic compressor module, a high flow rate air blower module, and a refrigeration module.

3. The modular infrastructure services device of claim 1 wherein the power and control buses comprise couplings for connecting at least one other power and control bus thereto, respectively.

4. The modular infrastructure services device of claim 1 wherein the power bus comprises a power coupling for connecting an auxiliary power source thereto, the power coupling

further comprising a switch for controlling the flow of electric power through the power coupling.

5. The modular infrastructure services device of claim 4 wherein the switch comprises a switchgear.

6. The modular infrastructure services device of claim 4 wherein the control bus is coupled to the switch.

7. The modular infrastructure services device of claim 1 wherein the pallet further comprises a mobility mechanism chosen from a group consisting of a trailer, an air lift skid, a set of tracks, a two-wheeled cart, and a backpack.

8. The modular infrastructure services device of claim 2 wherein a communications module mounted on the pallet and coupled to the power and control buses receives signals from a remote control panel and transmits the signals to a control module also mounted on the pallet and coupled to the power and control buses, the signals from the remote control panel comprising control signals that operate the control module in a desired manner.

9. The modular infrastructure services device of claim 1 wherein the control module is adapted to relay signals from at least one other infrastructure module, through the communications module to the remote control panel.

10. The modular infrastructure services device of claim 9 wherein the communication between the remote control panel and the control module is two-way.

11. An infrastructure services system comprising:

a control module having a central processing unit coupled to a read/write memory device, an input/output device, a power supply and to a communications port;

a power bus comprising a conductor of electric power and at least one power coupling; and,

a control bus comprising a conductor for control signals and at least one control coupling;

wherein the power bus is coupled to the power supply of the control module and wherein the control bus is coupled to the communications port of the control module.

12. The infrastructure services system of claim 11 further comprising a communications module having at least one two-way communications device, the communications module being coupled to the power bus and to the control bus and being further adapted to send and receive signals over the control bus to and from the control module.

13. The infrastructure services system of claim 12 wherein the two way communications device of the communications module is chosen from a group consisting of a satellite communications system, a non-directional broadcast transceiver, a line-of-sight communications system, a cellular communications system, a two way paging system, and a wireless broadband communications system.

14. The infrastructure services system of claim 11 further comprising a power module coupled to the power and control buses, the power module providing electrical power to the power bus and being controlled by signals received over the control bus from the control module.

15. The infrastructure services system of claim 14 wherein the power module comprises a power generation device chosen from a group consisting of a motor driven generator set, a fuel cell, a battery, a solar cell, and a wind powered turbine generator.

16. The infrastructure services system of claim 14 further comprising a water filtrate module comprising:

a media filter;

a reverse osmosis filtration unit; and,

an ultraviolet light water treatment unit,

the media filter being adapted to receive and filter contaminated water, the reverse osmosis filtration unit being coupled to the media filter so as to received the filtered water therefrom, the reverse osmosis filtration unit passing the water therethrough and to the ultraviolet light water treatment unit, which is coupled to the reverse osmosis filtration unit.

17. The infrastructure services system of claim 16 further comprising a water softener coupled to the media filter downstream therefrom.

18. The infrastructure services system of claim 16 further comprising a water treatment additive dispenser adapted to inject a water treatment additive to the water flowing therethrough, the water treatment additive dispenser being coupled to the media filter in a position upstream therefrom.

19. The infrastructure services system of claim 11 further comprising a water filtration module comprising:

a conduit for the passage of water therethrough having an inlet and outlet;

a pre-filter coupled inline with the conduit downstream of the inlet;

a water softener coupled inline with the conduit downstream of the pre-filter;

a reverse osmosis filter coupled inline with the conduit downstream of the water softener; and,

a storage tank coupled to the conduit between the outlet of the conduit and the reverse osmosis filter.

20. The infrastructure services system of claim 19 wherein the water filtration module further comprises a post-filter coupled inline with the conduit downstream from the storage tank and an ultraviolet light water treatment device coupled in line with the conduit between the post filter and the outlet of the conduit.

21. An integrated resource system comprising:

a communications module having a two-way communications device adapted to send and receive information to and from a remote control panel;

a power bus adapted to provide power to a plurality of infrastructure modules; and,

a control bus adapted to collect operational information from a plurality of infrastructure modules and to distribute control signals to the plurality of infrastructure modules,

the communications module being coupled to both the power and control buses, the communications module being further adapted to receive operational information regarding the plurality of infrastructure module and to relay that operational information to the remote control panel and to receive control signals from the remote control panel and to distribute those control signals to the plurality of infrastructure modules via the control bus.

22. The integrated resource system of claim 21 further comprising a power module coupled to the power bus and adapted to provide electrical power to the plurality of infrastructure modules coupled to the power bus, the power module also being coupled to the control bus and being adapted to receive and act upon control signals received over the control bus.

23. The integrated resource system of claim 21 further comprising a local control module coupled to the power and control buses, the local control module being adapted to control the plurality of infrastructure devices.

24. The integrated resource system of claim 21 further comprising a water filtration module having at least one filter and a water softening mechanism, the water filtration module being coupled to the power and control buses.

25. The integrated resource system of claim 24 wherein the water filtration module further comprises a water treatment additive dispenser.

26. The integrated resource system of claim 21 further comprising an air filtration module having at least one air filter positioned to filter air from at least one air blower.

27. The integrated resource system of claim 26 wherein the air filtration module further comprises a heat exchanger positioned downstream of the at least one air filter.

28. The integrated resource system of claim 26 wherein the air filtration module further comprises an ultraviolet light air treatment device positioned to shine ultraviolet light on air received from the at least one air filter.

29. The integrated resource system of claim 27 wherein the air filtration module further comprises a humidifier positioned to inject moisture into air received from the heat exchanger.

30. A water filtration module for an infrastructure support system comprising:

a conduit for the passage of water therethrough having an inlet and outlet;

a pre-filter coupled inline with the conduit downstream of the inlet;

a water softener coupled inline with the conduit downstream of the pre-filter; and,

a reverse osmosis filter coupled inline with the conduit downstream of the water softener.

31. The water filtration module for an infrastructure support system of claim 30 further comprising a storage tank coupled to the conduit between the outlet of the conduit and the reverse osmosis filter.

32. The water filtration module for an infrastructure support system of claim 31 wherein the water filtration module further comprises a post-filter coupled inline with the conduit downstream from the storage tank and an ultraviolet light water treatment device coupled in line with the conduit between the post filter and the outlet of the conduit.

33. The water filtration module for an infrastructure support system of claim 30 further comprising a water treatment additive dispenser coupled inline with the conduit upstream from the pre-filter.

34. The water filtration module for an infrastructure support system of claim 30 wherein the water treatment additive dispenser is adapted to dispense into the water flowing through the conduit an additive chosen from a group consisting of iodine, sodium hypochlorite, and ozone.

35. A method of providing infrastructure services comprising:

identifying at least one infrastructure need;

providing at least one infrastructure module to satisfy the at least on infrastructure need;

mounting the at least one infrastructure module on a modular support structure;

deploying the modular support structure to the location of the at least one identified infrastructure need; and,

activating the at least one infrastructure module to satisfy the at least one identified infrastructure need in an area surrounding the modular support structure.

36. The method of providing infrastructure services of claim 35 further comprising:

coupling the at least one infrastructure module to a power bus and a control bus to provide power and control signals to the at least one infrastructure module.

37. The method of providing infrastructure services of claim 35 further comprising:

coupling a communications module to the power bus and to the control bus and providing communications between a remote control panel and the at least one infrastructure module.

38. The method of providing infrastructure services of claim 35 further comprising:

coupling a communications module to the power bus and to the control bus and providing communications between a remote control panel and a plurality of infrastructure module.

39. A method of providing logistics for an integrated infrastructure resource system comprising:

providing an integrated infrastructure resource system having a plurality of infrastructure modules coupled together in a cooperative network that includes a two way wireless communications module adapted to communication with a remote control panel;

monitoring the function of the plurality of the networked infrastructure modules by means of signals received from the infrastructure modules by means of the communications module;

identifying remotely when a maintenance issue arises and a supply of consumable materials is depleted below a predetermined level; and,

scheduling independently maintenance on the integrated infrastructure resource system and deliver of consumable materials to the integrated infrastructure resource system.

40. The method of providing logistics for an integrated infrastructure resource system of claim 39 further comprising:

identifying remotely when a maintenance issue arises and a supply of consumable materials is depleted below a predetermined level in a plurality of integrated infrastructure resource systems; and,

scheduling independently maintenance on the integrated infrastructure resource system and deliver of consumable materials to the plurality of integrated infrastructure resource systems.